

Chapter 1—Introduction



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Bison

Conservation is a state of harmony between men and land. Despite nearly a century of propaganda, conservation still proceeds at a snail's pace; progress still consists largely of letterhead pieties and conventional oratory. On the back forty we still slip two steps backward for each forward stride.

From The Land Ethic, by Aldo Leopold, 1949

We, the Service, have developed this final environmental impact statement (EIS) to describe alternatives for and potential consequences of the management and use of the Rocky Mountain Arsenal National Wildlife Refuge (NWR or refuge). The refuge is part of the Rocky Mountain Arsenal National Wildlife Refuge Complex (refuge complex), which also manages the Two Ponds NWR and the Rocky Flats NWR, as well as various properties in Larimer and Weld Counties. The units of the refuge complex

are in Adams, Boulder, and Jefferson Counties along the Front Range region of Colorado (figure 1). Although all three refuges making up the refuge complex are managed by the same staff, Two Ponds NWR has a separate Comprehensive Management Plan (CMP) and Rocky Flats NWR has a separate comprehensive conservation plan (CCP). Consequently, those units are not considered in this EIS. The draft CCP for the Rocky Mountain Arsenal NWR was developed in compliance with the National Wildlife Refuge Administration Act of 1966, as amended (16 United States Code [U.S.C.] §§ 668dd et seq.) and Part 602 (National Wildlife Refuge System Planning) of the Fish and Wildlife Service Manual (FWS 2000a) and other Service guidelines. The actions described in this final EIS also meet the requirements of the National Environmental Policy Act of 1969 (NEPA).

Wildlife conservation, including habitat conservation, is the Service's first priority for managing national wildlife refuges. Public uses, specifically wildlife-dependent recreational uses, are allowed and encouraged as long as they are compatible with the establishment purposes of each refuge.

This final EIS discusses program levels that are sometimes substantially above current budget allocations and would, therefore, be phased in over time. The final CCP will specify the objectives and strategies necessary to achieve the refuge's purposes, vision, and goals.

We have formulated three alternatives—the action alternatives—for managing the refuge, as well as the no-action alternative (the continuation of current management). The action alternatives were developed in collaboration with Federal, State, local agencies, and neighboring cities and municipalities, as well as through public scoping. The core planning team of representatives from several Service programs (see “Chapter 5—Consultation, Coordination, and Responses to Comments”) prepared the draft CCP and EIS. In addition, the following cooperating agencies were on the planning team:

- Adams County
- City of Commerce City
- City and County of Denver
- Colorado Parks and Wildlife (CPW)
- Denver International Airport (DIA)
- Denver Water
- Tri-County Health Department (TCHD)
- Urban Drainage and Flood Control District (UDFCD)
- U.S. Army
- U.S. Department of Agriculture, Animal and Plant Health Inspection Service (APHIS)
- U.S. Department of Transportation (USDOT), Federal Highway Administration (FHWA)

This final EIS was prepared by representatives of several Service programs. Public involvement in the planning process is discussed in section 1.6 and in further detail in chapter 5. Details on the no-action alternative and three action alternatives are in “Chapter 2—Alternatives,” and the predicted effects of the alternatives are described in “Chapter 4—Environmental Consequences.” We have identified one alternative (alternative C) as the proposed action and have reaffirmed it as the Service's preferred alternative.

1.1 Purpose and Need for Action

The National Wildlife Refuge System Improvement Act of 1997 (Improvement Act) requires that each unit of the National Wildlife Refuge System (Refuge System) be managed in accordance with a CCP. Furthermore, the Improvement Act establishes

that each CCP will be revised at least every 15 years. Since the existing comprehensive management plan for the refuge was prepared more than 15 year ago, we developed a draft CCP and EIS, this final EIS, and we will develop a final CCP for the refuge. This final EIS was prepared as a result of the refuge's need to comply with the Improvement Act requirement that all the units of the Refuge System be managed in accordance with an approved CCP. Another reason to prepare a CCP for the refuge is to describe its role in supporting the mission of the Refuge System: to “administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources, and their habitats within the United States for the benefit of present and future generations.”

A third reason for developing a CCP is to provide long-term guidance for management of refuge programs and activities. The final CCP for the refuge will help us achieve the following:

- Communicate better with the public and other partners about our efforts to carry out the mission of the Refuge System and meet the purposes of the refuge.
- Provide a clear statement of direction for management of the refuge.
- Ensure that the refuge continues to conserve fish, wildlife, and ecosystems in spite of current challenges such as water shortages and the effects of climate change.
- Provide neighbors, visitors, and government officials with an understanding of our management actions on and around the refuge.
- Recruit and collaborate with regional partners to develop strategies for connecting more residents of the Denver Metropolitan area with nature.
- Ensure that our management actions are consistent with the mandates of the Improvement Act.
- Ensure that management of the refuge considers other Federal, State, and local government plans.
- Provide a basis for development of budget requests for the operation, maintenance, and capital improvement needs of the refuge.

We are committed to sustaining the Nation's fish and wildlife resources through the combined efforts of governments, businesses, and private citizens.

1.2 The U.S. Fish and Wildlife Service and the National Wildlife Refuge System

Our mission is working with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.

We are the principal Federal agency responsible for fish, wildlife, and plant conservation. The Refuge System is one of our major programs.

The U.S. Fish and Wildlife Service and its Mission

The Service was established in the Department of the Interior (DOI) in 1940 through the consolidation of bureaus then operating in several Federal departments. The primary precursor agency was the Bureau of Biological Survey in the U.S. Department of Agriculture (USDA). Today, we enforce Federal wildlife laws, manage migratory bird populations, restore nationally significant fisheries, conserve and restore vital wildlife habitat, protect and support recovery of endangered species, and help other agencies and governments with conservation efforts. In addition, we administer a Federal aid program that distributes hundreds of millions of dollars to states for fish and wildlife restoration, boating access, hunter education, and related programs.

Service Activities in Colorado

Our activities in Colorado contribute to the State's economy, ecosystems, and education programs. The following list describes some of our activities:

- We manage 10 units of the Refuge System encompassing a total area of 339,760 acres.

This includes nine national wildlife refuges plus other lands managed under the Farm Services Administration and interest along the Colorado River. These ten units of the Refuge System are considered as refuges in the Service's Annual Lands Report (FWS 2013b). We also manage two fish hatcheries with a total area of 3,208 acres, two coordination areas with a total area of 1,153 acres, and one administrative site (FWS 2013b).

- We provide millions of dollars annually, recovered as excise taxes from the sale of firearms and ammunition, to CPW for sport fish and wildlife restoration and hunter education under the Pittman-Robertson Act of 1937 and the Dingell-Johnson Act of 1950 (FWS 2013c).
- We manage the National Black-Footed Ferret Conservation Center (BFF Center) near Fort Collins in Larimer County.
- For more than 20 years, our Partners for Fish and Wildlife Program (Partners program) has helped to restore more than 29,647 wetland acres, 296 linear miles of streams, and 104,910 upland acres in Colorado (FWS 2013d).
- In 2014, we paid Adams County \$417,630 under the Refuge Revenue Sharing Act for use in schools, roads, and other county services (FWS 2013e).

The National Wildlife Refuge System



In 1903, President Theodore Roosevelt designated the 5.5-acre Pelican Island in Florida as the Nation's first wildlife refuge to protect nesting colonies of brown pelicans, egrets, and other birds. This was the first time the Federal Government had set aside land specifically for wildlife. This small but significant designation was the beginning of the Refuge System.

Since then, the Refuge System has become the largest collection of lands in the world specifically managed for wildlife, with at least one refuge in

The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources, and their habitats within the United States for the benefit of present and future generations.

every State and in five U.S. territories and Commonwealths, as well as numerous wetland management districts across the nation. These units of the Refuge System vary widely in size, purpose, origin, climate, level of development and use, and degree of Federal ownership (Fischman 2005; FWS 2013f).

Historically, most refuge-establishing statutes that authorized acquisition of national wildlife refuge lands gave broad authority to the Service for managing lands for wildlife. However, in many cases the establishing authorities lacked specific direction or procedures for uniform management of the acquired and reserved lands. To resolve this, Congress passed two statutes in the 1960s to provide administrative guidance: the Refuge Recreation Act of 1962 and the

National Wildlife Refuge System Administration Act of 1966 (Administration Act) (refer to appendix A). While the Administration Act consolidated the units under our jurisdiction, it still did not meet its goal of giving clear direction for Refuge System management. The Administration Act gave the Secretary of the Interior (Secretary) broad power to decide what secondary uses could occur on refuges and districts, but it did not provide any biological standards or other standards of review beyond the establishing purposes. Furthermore, Congress did not specify a definition for compatible uses or provide any other direction on making such a determination (Tredennick 2000).

In the late 1980s, a decline in migratory bird populations prompted a General Accounting Office study of how refuge and wetland management district management activities negatively affected these populations (General Accounting Office 1989; U.S. House of Representatives 1997). The report concluded that the focus on secondary uses of refuges and wetland management districts diverted the managers' attention and resources away from wildlife management. In the early 1990s, several environmental organizations, seeking to end recreational and economic uses of the units of the Refuge System because of alleged incompatibility with wildlife conservation, challenged the Service through several lawsuits (Tredennick 2000). Eventually, the Service settled the lawsuits by changing or eliminating several existing uses of Refuge System lands. The pressure for new legislation intensified as a direct result of these lawsuits and other concerns, and the ground was laid for passage of a bill that would give us a clear mission and help resolve the problems of the past (U.S. House of Representatives 1997). Finally, on October 9, 1997, Congress passed into law the National Wildlife Refuge System Improvement Act of 1997. The Improvement Act established a clear vision for the Refuge System.

The Improvement Act (and associated regulations) states that each unit of the Refuge System must be managed to:

- “fulfill the mission of the Refuge System, as well as the specific purposes for which that unit of the Refuge System was established”;
- consider “wildlife conservation... [as] the singular Refuge System mission” (Final Compatibility Regulations Pursuant to the National Wildlife Refuge System Improvement Act of 1997; FWS 2000b);
- “ensure that the biological integrity, diversity, and environmental health of the Refuge System are maintained”;



Aaron Rinker / USFWS

Weighing a fawn

- fulfill the requirements of preparing “a comprehensive conservation plan... for each unit of the Refuge System within 15 years after the date of enactment of the... Act” and of ensuring opportunities for “public involvement in the preparation and revision of [these] plans”;
- recognize that “compatible wildlife-dependent recreation [fishing, hunting, wildlife observation and photography, and environmental education and interpretation] is a legitimate and appropriate general public use of the Refuge System”;
- keep the authority of a refuge manager to “make... the compatibility determination” after exercising “sound professional judgment... regarding wildlife conservation and uses of the Refuge System” (Final Compatibility Regulations Pursuant to the National Wildlife Refuge System Improvement Act of 1997; FWS 2000b).

We began following the direction of the new legislation immediately after passage of the Improvement Act, most directly through initiating preparation of CCPs for all units of the Refuge System. In accordance with the mandates of the Improvement Act, we encourage public involvement in the preparation of all CCPs.

People and the Refuge System

The Nation’s fish and wildlife heritage contributes to the quality of American lives and is an integral part of the country’s greatness. Wildlife and wild places have always given people special opportunities to recreate, relax, and appreciate the natural world.

Wildlife-dependent recreation contributes millions of dollars to local economies through birding, fishing, hunting, photography, and other wildlife-related pursuits. Nearly 46.5 million people visited the units of the Refuge System in 2011 (Carver and Caudill 2013), mostly to observe wildlife in their natural habitats. Refuge System visitors enjoy nature trails, auto tours, interpretive programs, and hunting and fishing opportunities. Local communities that surround the refuges and districts receive significant economic benefits. Economists report that Refuge System visitors contribute more than \$2.4 billion annually to local economies, 72 percent of which is generated by nonconsumptive activities (Carver and Caudill 2013).

Urban Wildlife Conservation Program

With 80 percent of Americans living in cities, the Service needs to find a way to connect urban America with our wild places, such as our national wildlife refuges. Such connections are vital for fostering an appreciation for nature in today’s generation and for finding ways for the people of our Nation to be inspired by nature in the urban surroundings where they live. We believe that most Americans will have their most direct contact with nature while residing in an urban environment, and that that experience will help shape the Nation’s conservation values, ethics, and priorities. For these reasons, our refuge and the Service overall need to reach out beyond the boundaries of the lands we manage. This is the mandate of the Urban Wildlife Refuge Initiative.

Born from the “Conserving the Future” document, the program focused the Refuge System on recognizing the distinct value of refuges near and within major metropolitan areas. The Service’s new “Standards of Excellence for Urban National Wildlife Refuges” (FWS 2014a) has informed and inspired many of the actions proposed in this plan. In 2014, working with a broad range of government and non-governmental organizations, we developed a proposal describing the approach and steps necessary for transforming the Rocky Mountain Arsenal National Wildlife Refuge into one of the Nation’s premier urban national wildlife refuges.

Compatible Refuge Uses

Lands in the Refuge System are different from other Federal lands that have multiple-use purposes. They are closed to the public upon acquisition unless specifically and legally opened. A refuge use is not allowed unless the Service finds the use to be compatible (FWS 2000b). In the case of refuges, we cannot allow a new use, nor can we expand, renew, or extend an existing use, unless the Secretary has decided that the use is compatible and is consistent with public safety. A compatible use is one that, in the sound professional judgment of the manager, will not materially interfere with or detract from the fulfillment of the Refuge System mission or the purposes of the unit of the specific refuge or refuge complex. Sound professional judgment is defined as a decision that is consistent with the principles of fish and wildlife management and administration, the available science and resources, and adherence to the law.

Compatibility determinations are typically completed as part of the process for a CCP or stepdown management plan. The compatibility determinations for existing and new uses for the proposed actions under alternative C (preferred alternative) are provided in appendix B. A compatibility determination is the written documentation that an existing or proposed use of a national wildlife refuge either is or is not compatible with the purposes of the refuge. Following public review, a final determination is made about the compatibility of various uses. Subsequently, the determination is signed and dated by the manager with the concurrence of the assistant regional director for the Refuge System. Once a final compatibility determination is made, it is not subject to administrative appeal.

The Improvement Act states that six priority uses—hunting, fishing, wildlife observation, photography, interpretation, and environmental education—should receive consideration over other public uses in planning and management. All activities associated with recreational uses, or where there is an economic benefit associated with a use (such as livestock grazing or commercial recreation), require compatibility determinations. However, management activities such as prescribed fire or invasive plant control do not require compatibility determinations.

Biological Integrity, Diversity, and Environmental Health

Central to the Improvement Act is the requirement that the biological integrity, diversity, and environmental health of the Refuge System be maintained for the benefit of present and future generations of Americans. In 2001, we published a policy with guidance on this topic (FWS 2001). This policy directs refuge managers to consider the broad spectrum of fish, wildlife, and habitat resources found on the refuge or district and in associated ecosystems while fulfilling the purposes of the refuge and the Refuge System mission. The policy defines the terms biological integrity, diversity, and environmental health, and provides direction for secondary economic uses like farming, haying, livestock grazing, beekeeping, firewood collection, and other extractive activities. These are permissible habitat management practices only when prescribed in plans to meet wildlife or habitat management objectives and only when more natural methods, such as fire or grazing by native herbivores, cannot meet the purposes and goals of the Refuge System unit. As stated above, a compatibility determination is required for these uses.

Rocky Mountain Arsenal National Wildlife Refuge Act of 1992

The Rocky Mountain Arsenal National Wildlife Refuge Act of 1992 transferred management and jurisdiction of the Rocky Mountain Arsenal to DOI for management as a national wildlife refuge and established guidelines for initiating environmental cleanup. The act is reproduced in appendix C.

Refuge Establishment and Management History

The Rocky Mountain Arsenal National Wildlife Refuge is an urban wildlife refuge just north of Denver, Colorado. The site neighbors several communities that have historically played an active role in the development and management of the land.

The U.S. Army purchased 19,833 acres from Colorado homesteaders in 1942 with the intent to develop a chemical munitions plant to supply American forces during World War II. The site was selected because of its ideal location: it was far from potential threats to both coasts, easy to access by rail, and removed from the Denver Metropolitan area. The United States developed the Arsenal as a deterrent to counter the German and Japanese production of chemical weaponry, but the U.S. Army never in fact employed chemical weapons during World War II. Initially, the Arsenal supplied mustard gas, lewisite, and chlorine gas during World War II. During the Cold War and Korean War, the Arsenal was called into action again, producing white phosphorous, distilled mustard, and incendiary bombs.

In addition to the production of chemical munitions, the Arsenal realized the heightened priority of chemical production byproducts and worked simultaneously to demilitarize older products through the 1960s. During the same period, the U.S. Army continually produced GB-Sarin, a highly dangerous and debilitating nerve agent to deter mounting Soviet threats. Later, rocket fuels and hydrazine were produced to aid the Nation in the space race. Chemical weapon production finally came to a close in the 1970s. In 1972, the United Nations Conference on the Human Environment sparked interest in preventing the decline of the environment. Outdated practices of deep well pumping (pushing the chemicals deep into the earth) resulted in earthquakes around the Denver area. The need for an efficient and effective method of protecting the public from chemical contamination became apparent.

In 1987, the Rocky Mountain Arsenal was placed on EPA's National Priority List (NPL) because of its status as one of the most contaminated sites in the country (Federal Register 1987). EPA, DOI, Agency for Toxic Substances and Disease Registry, the State of Colorado, and the U.S. Army entered into a Federal Facilities Agreement outlining the responsibilities of each party in the cleanup process. Finally, in 1992, Congress passed the Rocky Mountain Arsenal National Wildlife Refuge Act (appendix C). The Act established the Arsenal as a national wildlife refuge and declared that once cleanup was complete and certified by EPA, management responsibility would lie with the Service.

Environmental Cleanup

The impact of manufacturing ordnance and pesticides on the site and the subsequent plans that were developed to clean up contaminants are well documented in the 1996 Record of Decision (ROD) that initiated the environmental cleanup (Foster Wheeler Environmental Corporation 1996). In summary, disposal practices typical of that era included treating and discharging waste products into evaporation basins. However, by the early 1950s, chemical wastes were leaching through the soil into groundwater and were affecting environmental resources. Subsequent cleanup activities have included construction of borrow areas, caps, covers, landfills, and other remediation structures that disturbed thousands of acres on the present-day refuge. These activities, ongoing since 1988, were concluded in fall 2011. In some cases, the surface topography of an entire section of land was completely recontoured to facilitate cleanup and drainage, whereas in other sections borrow areas had to be excavated to depths ranging from 1 foot to more than 20 feet. As lands were fully remediated, EPA removed them from the NPL so they could be added to the refuge (Federal Register 2003; 2004b; 2006; 2010).

The cleanup effort would result in the loss of considerable wildlife habitat. To mitigate these losses, efforts were initiated to restore much of the future refuge to native plant communities. Restoration of native shortgrass and mixed-grass prairie is a difficult undertaking that was guided by a habitat restoration plan (FWS 1999b). In 2012, we entered into a new agreement to assist the U.S. Army in achieving its goals for restoration and mitigation of habitat losses. This agreement funded restoration of approximately 2,122 acres remaining of the planned mitigation of 10,727 acres at the refuge. This work is still underway; we plan to meet this obligation by 2018.

In 2008, the State of Colorado, the U.S. Army, and Shell Oil Company reached a settlement on the natural resource damages associated with the site. This

settlement provided approximately \$35 million for acquisition, enhancement, and restoration of natural resources in and around the northeast metropolitan area Arsenal site (Colorado Attorney General 2008).

Refuge Establishment

The refuge was officially established on April 21, 2004, when we accepted 4,930 acres of land in the southern and southeastern areas of the site (Federal Register 2004a). Additional lands were added over the years until the refuge reached its current size. Additional transfers are expected in the future, but the U.S. Army will always retain lands associated with their landfills in the center of the refuge.

Today's refuges are managed by the Service with the intent to fulfill the mission and goals of the Refuge System. The goals of the Refuge System together with the interests of the refuge (as designated by the 1992 Act) afford the refuge an opportunity for new growth and wildlife preservation in this phase of its existence. While the 1992 Act is a guiding foundation for the refuge's direction, the refuge is further managed in accordance with the Migratory Bird Treaty Act of 1918, Refuge Recreation Act of 1962, National Wildlife Refuge System Administration Act of 1966, Title 50 CFR, the "Fish and Wildlife Service Manual," and the Improvement Act.

We completed our first comprehensive management plan for the refuge in 1996; this plan provided guidance through the cleanup period (FWS 1996a). The end of cleanup signaled a major change in management direction for the refuge. In 2013, we released a new HMP and several supporting plans that will guide current and future refuge management (FWS 2013a, 2013h, 2013i).

Land Use Restrictions

In 1987, pursuant to Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, the Rocky Mountain Arsenal was listed on the National Priorities List (Superfund). A Federal Facility Agreement was developed in 1989 to guide cleanup activities at the Arsenal; Section 44 of this agreement includes several land use restrictions. The 1996 ROD for the site incorporated many of these land use restrictions (Foster Wheeler Environmental Corporation 1996). In 2003, 2004, 2006, and 2010, EPA completed partial deletions from the NPL of lands that would become the refuge, meaning that the lands have been cleaned up sufficiently to guarantee the health of refuge workers and visitors (Federal Register 2003; 2004b; 2006; 2010). In accordance with Section (2)(2)(b) (2) of the Rocky Mountain Arsenal National Wildlife Refuge Act of 1992, EPA certified that these lands

were acceptable for transfer as a national wildlife refuge. Based on the 2004 deletion, the refuge was officially established (Federal Register 2004a).

Land use restrictions found in the 1989 Federal Facility Agreement are as follows:

- Residential development on the Rocky Mountain Arsenal shall be prohibited.
- The use of groundwater located under, or surface water located on, the Rocky Mountain Arsenal as a source of potable water shall be prohibited.
- Consumption of all fish and game taken on the Rocky Mountain Arsenal shall be prohibited, although hunting and fishing on the site for nonconsumptive use may occur if subject to appropriate restrictions.
- Agricultural [sic], including all farming activities such as the raising of livestock, crops, or vegetables, shall be prohibited. Agricultural practices used in Response Action or used for erosion control, however, shall be permitted.
- Wildlife habitat(s) shall be preserved and managed as necessary to protect endangered species of wildlife to the extent required by the Endangered Species Act, 16 U.S.C. §§ 1531 et seq., migratory birds to the extent required by the Migratory Bird Treaty Act, 16 U.S.C. §§ 703 et seq., and bald eagles to the extent required by the Bald Eagle Protection Act, 16 U.S.C. §§ 668 et seq.
- Other than as many [sic] be necessary in connection with a Response Action or as necessary to construct or operate a Response Action Structure, no major alteration shall be permitted in the geophysical characteristics of the Arsenal if such alteration may likely have an adverse effect on the natural drainage of the Rocky Mountain Arsenal for floodplain management, recharge of groundwater, operation and maintenance of Response Action Structures, or protection of wildlife habitat(s).
- The United States shall maintain security at the Rocky Mountain Arsenal adequate to assure the proper construction, operation, and maintenance of Response Action Structures, the proper implementation and monitoring of Response Actions and compliance with the restrictions listed in paragraph

44.2 and the Technical Program Plan. The United States shall take reasonable precautions to assure that only federally authorized access to the Rocky Mountain Arsenal shall occur.

The 1996 ROD incorporates these restrictions more simply as “The Rocky Mountain Arsenal National Wildlife Refuge Act of 1992 and the Federal Facilities Agreement restrict future land use, and prohibit certain activities such as agriculture, use of on-post groundwater as a drinking source, and consumption of fish and game taken at Rocky Mountain Arsenal NWR.” The 1989 Federal Facility Agreement states that “The United States [U.S. Army, EPA, USFWS] shall also evaluate the continuing need for such restrictions or requirements to determine if any restriction or requirements may be removed or modified.” We are currently working with these organizations to remove or modify unnecessary land use restrictions on the refuge.

Hours of Operation

On May 15, 2014, we expanded the hours of operation of the refuge (FWS 2014c). The refuge is now open daily from sunrise to sunset and will be open on most Federal holidays (we are closed on Thanksgiving, Christmas, and New Year’s Day). We believe that sunrise to sunset hours are easy to understand, and the change provides better access to visitors when they are not at work. Wildlife can be adversely affected when disturbed overnight; these hours will be strictly enforced.

The refuge’s Visitor Center is open Wednesday through Sunday from 9:00 a.m. to 4:00 p.m. and is closed on all Federal holidays. The Visitor Center requires staff to operate, and hours were reduced in 2013 due to significant budget cuts.

1.3 National and Regional Mandates

Refuge System units are managed to achieve the mission and goals of the Refuge System, along with the designated purposes of the refuges, conservation areas, and wetland management districts as described in establishing legislation, Executive Orders, or other establishing documents. Key concepts and guidance for the Refuge System are set forth in the National Wildlife Refuge System Administration Act of 1966, as amended by the Improvement Act (16 U.S.C. 668dd et seq.) and further detailed in

Title 50 of the Code of Federal Regulations (CFR) and the “Fish and Wildlife Service Manual.”

Brief descriptions of the laws and Executive Orders that may affect the development or implementation of the CCP are presented in “Appendix A—Key Legislation and Policies.” Service policy for the planning process and management of refuges and districts is found in the “Fish and Wildlife Service Manual.”

Strategic Habitat Conservation

Escalating challenges such as threatened and endangered species, land use conversion, invasive species, water scarcity, environmental contaminants, urbanization, and climate change have led us to move away from our earlier approach to conservation, which emphasized ecosystems, toward a broader vision that emphasizes landscape conservation in partnership with others.

A cooperative effort by the Service and the U.S. Geological Survey (USGS) culminated in a report on SHC by the National Ecological Assessment Team (USGS and FWS 2006). The report outlined a unifying adaptive resource management approach for landscape-scale conservation of the entire range of a priority species or suite of species. This is SHC—a way of thinking and doing business by incorporating biological goals for priority species populations, by making strategic decisions about the work needed, and by constantly reassessing and refining the approach (figure 2).

Since 2006, we have taken significant steps to turn this vision into a reality by defining a framework of 22 geographic areas. Experts from both the Service and USGS developed this framework through an aggregation of Bird Conservation Regions. The refuge lies within the Great Plains Geographic Area (figure 3).

We have used this framework as the basis to establish the first generation of Landscape Conservation Cooperatives (LCCs). These LCCs are conservation-science partnerships between the Service and other Federal agencies, States, tribes, nongovernmental organizations, universities, and others. Designed as fundamental units for planning and science, the LCCs have the capacity to help us carry out the elements of SHC: biological planning, conservation design and delivery, and monitoring and research. Coordinated planning and scientific information will strengthen our strategic response to possible climate change and other challenges. Because the sheer number of species that we and our partners work with makes designing and conserving landscape-scale habitats impractical on a species-by-spe-

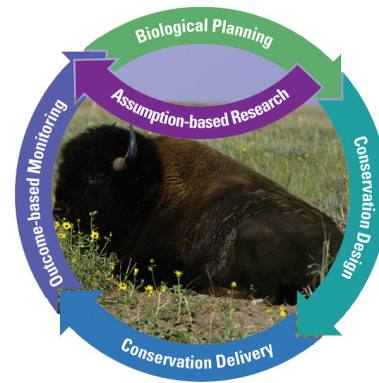


Figure 2. Strategic habitat conservation.

cies basis, we are now developing a process to collaboratively identify surrogate species, or species that can represent a suite of other species or aspects of the environment such as habitat or water quality. For more information about surrogate or focal species, refer to chapters 2 and 3.

Climate Change

We expect that any change in climate would affect the Nation’s fish, wildlife, and plant resources in profound ways. While many species would continue to thrive, some may decline and some may go extinct. Some species would survive in the wild only through direct and continuous intervention by managers. In 2010, we completed a strategic plan to address climate change for the next 50 years. The strategic plan is built on three key strategies: adaptation, mitigation, and engagement. In addition, the plan acknowledges that no single organization or agency can address climate change without establishing partnerships across the Nation and around the world (FWS 2010a). This strategic plan is an integral part of DOI’s strategy for addressing climate change as expressed in Secretarial Order 3226 and updated by Order 3289 (DOI 2009). Order 3226 states that “there is a consensus in the international community that global climate change is occurring and that it should be addressed in governmental decision making.” Furthermore, we are employing the National Fish, Wildlife, and Plants Climate Adaptation Strategy (National Fish, Wildlife, and Plants Climate Adaptation Partnership 2012), which is a call to action to work with other natural resource professionals and decision makers to conserve the Nation’s fish, wildlife, plants, and natural systems that could be affected by climate change.

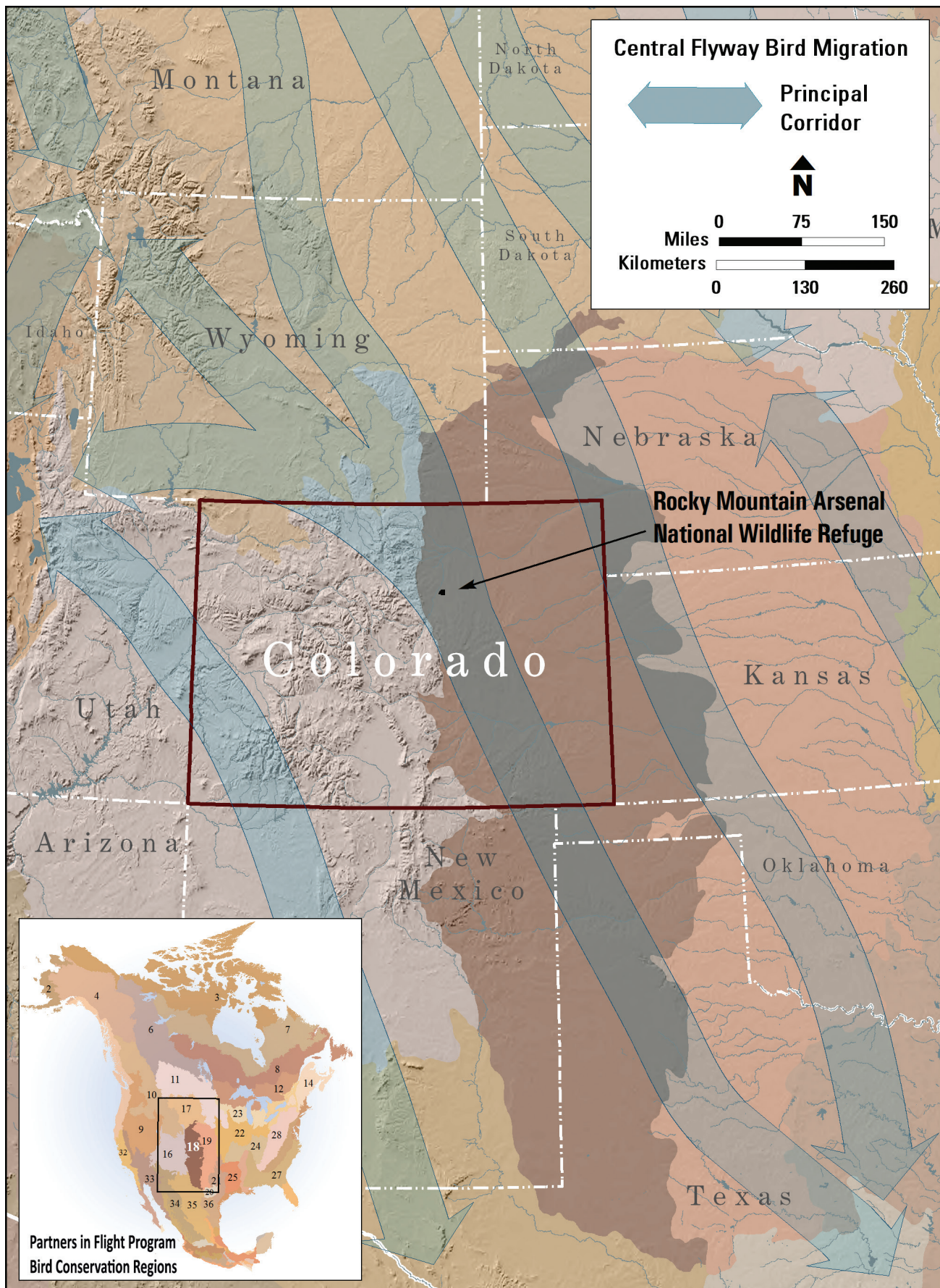


Figure 3. Principal flyway corridors and North American Bird Conservation Regions.

We will use the following guiding principles from the strategic plan (FWS 2010a) in responding to climate change:

- *Priority setting*—Continually evaluate priorities and approaches, make difficult choices, take calculated risks, and adapt to possible climate change.
- *Partnership*—Commit to a new spirit of coordination, collaboration, and interdependence with others.
- *Best science*—Reflect scientific excellence, professionalism, and integrity in all of our work.
- *Landscape conservation*—Emphasize the conservation of habitats within sustainable landscapes, applying our SHC framework.
- *Technical capacity*—Assemble and use state-of-the-art technical capacity to meet the challenge of a possible change in climate.
- *Global approach*—Be a leader in national and international efforts to meet the challenge of a possible change in climate.

Conserving the Future

In 1999, we developed a vision for the Refuge System. A report titled “Fulfilling the Promise—The National Wildlife Refuge System” (FWS 1999b) was the culmination of a year-long process by teams of Service employees to evaluate the Refuge System nationwide. It was the focus of the first National Refuge System conference (in 1998), which was attended by the managers of Refuge System units, other Service employees, and representatives from leading conservation organizations. The report contains 42 recommendations bundled with 3 vision statements dealing with wildlife and habitat, people, and leadership. The outcome of that effort continues to influence CCP planning both nationally and locally.

In 2010, we began updating our earlier vision for the Refuge System in a report titled “Conserving the Future—Wildlife Refuges and the Next Generation” to chart a course for the Refuge System’s next 10 years (FWS 2011a). The new vision recognizes many new challenges in landscape conservation efforts, including a rapidly changing landscape and a constricted Federal budget. Moreover, less undeveloped land is available, more invasive species are spreading, and it appears that we are experiencing the effects of

a possible change in climate. In the face of these and other challenges, we believe we can most effectively pursue conservation objectives through continued partnering with Federal, State, and local agencies; tribes; nongovernmental organizations; friends groups; and volunteers. As we have done in the past, we will strive to be a vital part of local communities as we work to conserve wildlife and habitats (FWS 2011a).

We believe that the wildlife management and habitat recovery and conservation actions outlined in the draft CCP and this final EIS reflect our commitment to the American people to support the Refuge System’s landscape conservation efforts and to respond to the climate change challenge (see “Climate Change” in chapter 2 of this final EIS).

1.4 Other National Conservation Efforts

As part of our SHC mission, the refuge collaborates with the planning and conservation work of many regional and national agencies and organizations. Some of these collaborations are described below.

Recovery Plans for Threatened and Endangered Species

Where federally listed threatened or endangered species occur within the refuge, we adhere to the management goals and strategies in the recovery plans for those species. The list of threatened and endangered species at the refuge changes as species are listed or delisted or as listed species are discovered. The refuge will follow the recovery and management plans for the black-footed ferret, which is listed as endangered. Refer to “Wildlife Management” subsections in chapter 2 as well as section 3.2, which identifies other listed species or species of concern that could occur on the refuge.

Bird and Landscape Conservation

Over the past few decades, interest in conserving birds and their habitats has been growing. This increased interest has led to the development of partnership-based bird conservation initiatives that have produced international, national, and regional conservation plans. The North American Bird Con-

servation Initiative Committee, started in 1999, is a coalition of government agencies, private organizations, and bird initiative groups in the United States, Canada, and Mexico working to advance and integrate bird conservation efforts. The primary conservation planning initiatives follow the Partners in Flight North American Landbird Conservation Plan, the North American Waterfowl Management Plan, the U.S. Shorebird Conservation Plan, and the North American Waterbird Conservation Plan. Furthermore, to help apply adaptive management strategies across large landscapes, the Service is partnering with new and established conservation groups in developing LCCs to address issues for plant, wildlife, and fish resources that share similar stressors and impacts, such as climate change, on a landscape-scale level. The refuge's role in connection with Partners in Flight and the Great Plains LCC is described below.

Partners in Flight

The Partners in Flight program began in 1990 in response to the declining population levels of many migratory bird species. The program's primary goal is to provide for the long-term health of birdlife in the Western Hemisphere. Partners in Flight's mission is expressed in three related concepts: (1) helping species at risk; (2) keeping common birds common; and (3) voluntary partnerships for birds, habitats, and people (Partners in Flight 2012).

For planning purposes, Partners in Flight divides North America into seven groupings of birds by ecological area, avifaunal biome, and 37 Bird Conservation Regions (figure 3). The refuge is in Bird Conservation Region 18—Shortgrass Prairie (North American Bird Conservation Initiative 2013). Region 18 is a topographically complex area that includes the Front Range region of Colorado. Wetlands and riparian corridors along the Front Range support a variety of nesting waterfowl, and the surrounding uplands provide migration habitat for various bird species of management concern.

Focal birds are a subset of the list of the Service's 2009 Birds of Management Concern (FWS 2011b) and are selected on the basis of: (1) high conservation need, (2) characteristics representative of a broader group of species sharing the same or similar conservation needs, (3) a high level of current Service effort, (4) a potential to stimulate partnerships, and (5) a high likelihood that factors affecting the species' status can realistically be addressed.

As discussed in chapter 2, section 2.2, and chapter 3, section 3.2, some focal species identified for Bird Conservation Region 18 occur on the refuge complex.

Landscape Conservation Cooperatives

The refuge is in the Great Plains LCC (GPLCC) (figure 4). The GPLCC contains grasslands, playas, saline lakes, prairie rivers, streams and riparian corridors, savannahs, shrublands, and sand dune habitats in parts of Kansas, Nebraska, western Oklahoma and Texas, eastern Colorado and New Mexico, and southeastern Wyoming. The GPLCC has identified an initial list of priority species for shortgrass and mixed-grass prairies, including lesser prairie chicken, burrowing owl, black-tailed prairie dog, American bison, American burying beetle, black-footed ferret, mountain plover, and ferruginous hawk. As discussed in chapter 2, section 2.2, and chapter 3, section 3.2, some of these species occur on the refuge.

Monarch Butterfly Conservation Initiative

The Service plans to allocate an additional \$2 million in fiscal year 2015 for monarch conservation, building upon our already robust commitment to work with our partners to restore and enhance approximately 200,000 acres of habitat for monarchs while also supporting more than 750 schoolyard habitats and pollinator gardens.

Our Monarch Conservation Strategy identifies key investments in conservation planning, design, delivery, inventory, and monitoring—the primary elements of our SHC approach to our emerging monarch conservation strategy. This comprehensive approach involves habitat restoration and enhancement projects, native seed strategies, and education and outreach programs. Investments align with the strategy's goals, listed below:

- Conservation planning and design processes for key geographic areas range-wide.
- Restoring and enhancing habitat in the eastern population's central flyway for migrating monarchs from border to border, with a focus on first-generation spring breeding habitat and summer breeding areas for monarchs in the high production areas of what is known as the Corn Belt.
- Developing a range-wide, geospatial approach for conserving the western monarch population while also restoring and enhancing important habitat.
- Engaging communities, schools, and citizens through a conservation campaign across the country, focusing efforts around a vision for Interstate 35 as the centerpiece of a greater landscape partnership for monarchs and pollinators.



Figure 4. Landscape Conservation Cooperatives.

The refuge will seek a partnership with the Butterfly Pavilion in Westminster, Colorado, to support monarch butterfly conservation efforts.

State Comprehensive Fish and Wildlife Conservation Strategy

Over the past several decades, many declines of wildlife populations have been documented across the Nation. To help prevent species from becoming threatened or endangered, Congress created the State Wildlife Grant program in 2001. This program provides States and territories with Federal money to support wildlife conservation.

Under this program, each State develops a Comprehensive Fish and Wildlife Conservation Strategy that defines an integrated approach to the stewardship of all wildlife species, with emphasis on species of concern and habitats at risk. The goal is to shift focus from single-species management and highly specific individual efforts to a landscape-oriented, geographically based conservation effort. The Service approves each State's conservation strategy and administers the State Wildlife Grant money.

Colorado's highest priority watersheds include the South Platte Basin, where the refuge is located. Tier 1 species (highest priority) consist of all federally listed species, along with 52 species of greatest conservation need, for a total of 107 Tier 1 species. The remaining 103 species of greatest conservation need make up Tier 2. Some of the Tier 1 bird species relevant to the refuge are bald eagle, Swainson's hawk, burrowing owl, grasshopper sparrow, lark bunting, Cassin's sparrow, and loggerhead shrike (Murray Laubhan, FWS Region 6 Zone biologist; telephone conversation; September 25, 2014).

The planning team for the CCP used Colorado's Comprehensive Fish and Wildlife Conservation Strategy during development of the draft CCP and EIS (CDOW 2006). Implementation of the final CCP will support the goals and objectives of the State conservation strategy.

1.5 Planning Process

Planning for the refuge's CCP and EIS began in spring 2013 with site visits and meetings with refuge staff and invitations to State and Native American tribal representatives, followed with the establishment of a core planning team of Service staff from the refuge and the Mountain-Prairie region in summer 2013. Chapter 5 lists the core planning team and cooperating agency members for this planning process.

The core team was responsible for the development of a set of management alternatives, the analysis of environmental consequences, and the writing and production of the draft CCP and EIS. With the participation of the entire refuge staff, the core team developed a preliminary vision and set goals for the refuge. The cooperating agencies (refer to section 1.6) are part of the larger planning team, who met throughout the process in a series of collaborative workshops to develop and review the alternatives and to review drafts of the CCP and EIS.

While developing the CCP, the planning team collected available information about the resources of the refuge and surrounding area. This information, summarized in chapter 3, served as the baseline for analyzing the predicted effects of the alternatives. Table 1 lists many other planning activities that occurred subsequent to creation of a habitat management plan (HMP), a stepdown plan to the CMP that we developed over the last few years and finalized in 2013.

The planning process is based on the Refuge System planning policy, which was issued in 2000 (FWS 2000a). The resulting requirements and guidance for refuge and district plans, including CCPs and stepdown management plans, ensure that planning efforts comply with the Improvement Act. The planning policy sets out the steps of the CCP and environmental analysis process (figure 5).

1.6 Public Involvement

Public scoping began in June 2013 with the release of a planning update that described the CCP process and its anticipated schedule (FWS 2013g). We published a notice of intent to prepare a CCP and EIS in the Federal Register on August 7, 2013. Since then, we conducted four public meetings during the scoping and development of the alternatives; mailed one planning update; posted information on the Web site for the CCP; and coordinated with Federal, State, and local agencies and Native American tribes.

The purpose of the first round of public meetings during the scoping phase was to inform the public about the project and to solicit their ideas and concerns regarding the future management of the refuge. During the alternative public meetings, we described the alternatives to meeting participants, answered their questions, and collected feedback.

An important consideration in the development of the CCP and this EIS is the opinions, perspectives, and values of all interested citizens, agencies, and organized groups. While there are no requirements to base management decisions on public opinion, we value and consider input from the public. As detailed

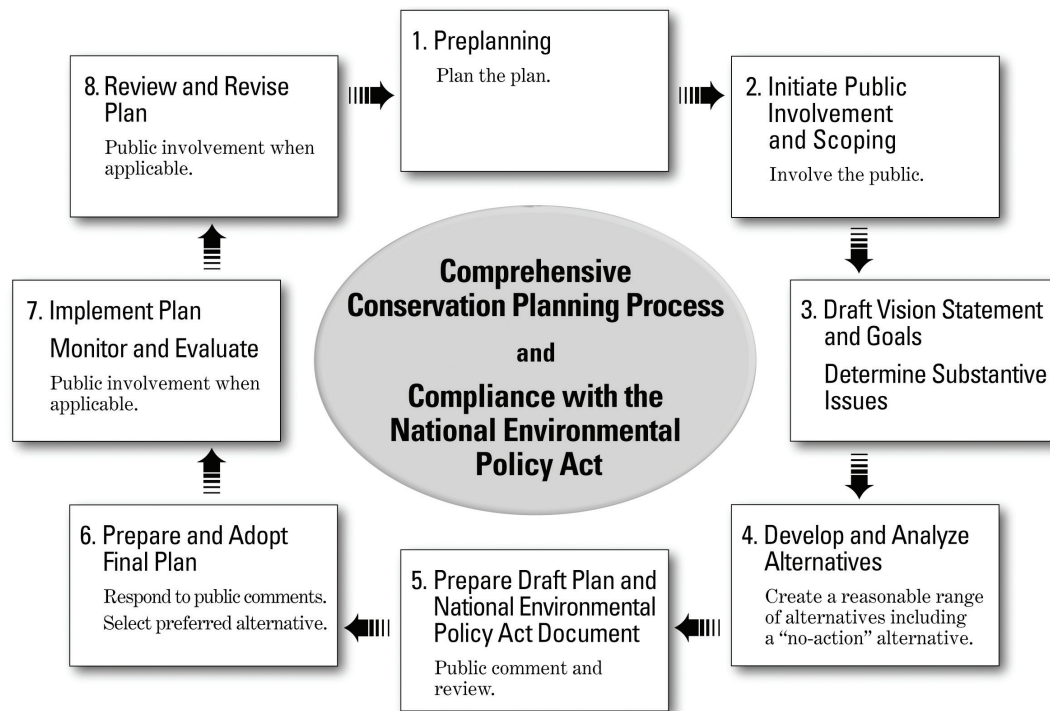


Figure 5. Comprehensive conservation planning process.

Table 1. Planning process summary for the CCP and EIS for Rocky Mountain Arsenal National Wildlife Refuge, Colorado.

<i>Date</i>	<i>Planning Activity</i>	<i>Outcome</i>
May 6, 2013	Preplanning meeting and tour of the refuge	Met with refuge staff. Identified refuge purposes and initial list of issues and qualities. Provided overview of the CCP development process.
June 13, 2013	Mailing of Regional Director's Invitation Letters to Native American Tribal leaders and Cooperating Agencies	Invited Native American Tribal governments and cooperating agencies to join in the process of developing the CCP/EIS.
June 14, 2013	Mass mailing of first CCP and EIS Planning Update	Informed members of the public, cooperating agencies, Congressional delegation, and others of our intent to prepare a CCP, our desire for their participation, how to provide comments, and public scoping meetings subsequently held near the refuge.
June 24, 2013	Onsite meeting and tour of refuge for Congressional Representatives	Met with and briefed local Congressional Delegation on the refuge's mission, its challenges and issues, and the process to develop the CCP.
June 26, 2013	Kickoff meeting and tour of the refuge	Updated the list of issues and qualities affecting the refuge complex. Identified needed biological information and maps. Developed draft vision and goals.
July 25, 2013	Public scoping meeting at the Reunion Recreation Center	Reached out to public to present an overview of the planning process, request their involvement, and solicit their input.
July 30, 2013	Public scoping meeting at the Central Park Recreation Center	Reached out to public to present an overview of the planning process, request their involvement, and solicit their input.

Table 1. Planning process summary for the CCP and EIS for Rocky Mountain Arsenal National Wildlife Refuge, Colorado.

<i>Date</i>	<i>Planning Activity</i>	<i>Outcome</i>
August 7, 2013	Publication in Federal Register of Notice of Intent to Prepare a CCP and EIS for the RMA NWR	Informed the public of our intention to prepare a CCP/EIS for the refuge, of how to provide us comments, and of the CCP public meetings.
August 7, 2013	Bilingual public scoping meetings at the Commerce City Recreation Center (English and Spanish)	Reached out to public to present an overview of the planning process, request their involvement, and solicit their input.
August 15, 2013	Bilingual public scoping meetings at the Montbello Recreation Center (English and Spanish)	Reached out to public to present an overview of the planning process, request their involvement, and solicit their input.
October 29–30, 2013	Visitor Services Program Assessment Workshop	Planning team reviewed existing RMA NWR visitor services program and brainstormed how it might be enhanced and expanded.
December 19, 2013	Meeting on RMA NWR CCP/EIS transportation needs	Planning team leader met with FHWA personnel to identify transportation issues, analysis, and needs, and to plan workshop.
January 8–9, 2014	Purposes, Vision, and Goals Workshop	Planning team reviewed establishment purposes of the refuge and developed a vision and a set of goals statements for the CCP/EIS.
January 28, 2014	Transportation Alternatives Workshop	Gained understanding of existing access and circulation conditions, and outlined RMA NWR transportation issues to address in CCP/EIS.
February 7, 2014	CCP/EIS alternatives briefing	Planning team leader briefed FHWA personnel on range of alternatives development process and analysis needs.
February 24–25, 2014	Range of Management Alternatives Development Workshop	Formulated a range of management alternatives; ensured that management alternatives generated by workshop participants satisfy NEPA; defined requirements for a full range of viable options.
March 11, 2014	Alternatives Mapping Workshop	Refuge and Regional Office staff met to discuss GIS and mapping needs to show the features of each alternative graphically.
April 14–16, 2014	Environmental Consequences Assessment Workshop	Identified affected resources, defined thresholds, discussed and described impacts of management alternatives.
May 16, 2014	Preliminary Proposed Action Workshop	Reviewed and updated alternatives, reviewed and updated impact summary work to date, reviewed how alternatives meet goals/vision for RMA, discussed preliminary proposed action and reasoning, planned for moving CCP/EIS forward.
June 11, 2014	Black-Footed Ferret Consultation Conference	Refuge staff conferred with staff from the Ecological Services Colorado Field Office on black-footed ferret reintroduction issues and procedures.
June 19, 2014	CCP/EIS and black-footed ferret reintroduction status briefing to DIA staff	Presented draft alternatives and proposed black-footed ferret reintroduction details and maps to DIA staff, answered their questions, and received input and comments from them.
June 26–October 16, 2014	Drafting of CCP/EIS for internal review	Refuge and Regional Office staffers prepared a preliminary draft CCP/EIS to be reviewed internally by the planning team and Service personnel.

Table 1. Planning process summary for the CCP and EIS for Rocky Mountain Arsenal National Wildlife Refuge, Colorado.

<i>Date</i>	<i>Planning Activity</i>	<i>Outcome</i>
July 7, 2014	CCP/EIS status briefing to the City of Commerce City Council	Presented draft vision, goals, alternatives, and proposed action details and maps to the City of Commerce City Council members, answered their questions, and received input and comments from them.
July 16, 2014	UCD Design Studio meeting	Planning team leaders met with instructor from University of Colorado at Denver Landscape Architecture program to discuss planning needs.
July 17, 2014	CCP/EIS status briefing to RMA Committee	Presented draft vision, goals, alternatives, and proposed action details and maps to the RMA Committee members, answered their questions, and received input and comments from them.
August 12, 2014	Meeting on CCP/EIS long-range transportation needs	Planning team leader met with other RO employees and FHWA staff to discuss the RMA NWR CCP/EIS long-range transportation needs.
August 14, 2014	CCP/EIS status briefing to Denver Parks and Recreation	Presented draft vision, goals, alternatives, and proposed action details and maps to the members of the Denver Parks and Recreation directorate, answered their questions, and received input and comments from them.
August 22, 2014	Meeting on CCP/EIS planning and alternatives	Planning team leaders met with FHWA staff to discuss the status of the RMA NWR CCP/EIS planning effort and the details of the alternatives.
August 28, 2014	Teleconference on socioeconomic analysis needs	Refuge and RO staffers held teleconference with USGS socioeconomic branches to discuss CCP/EIS socioeconomic analysis needs.
September 30, 2014	Refuge project leader and planning team leaders briefing with Refuge Supervisor	The RMA NWR project leader and the planning team leaders briefed the refuge supervisor on the planning effort status and alternatives details.
May–June 2015	Publishing of Notice of Availability in Federal Register, press release, distribution of draft CCP/EIS for public review, public meetings	The RMA NWR staff informed the public about the release of the draft CCP/EIS for public comment and conducted public meetings to solicit public input.
July 2015	Selection of the preferred alternative and determination of the environmentally preferable alternative	The RMA NWR planning team reconsidered the proposed action in light of public comments, modified it slightly, and deemed it the refuge's preferred alternative. The team also reviewed impacts of each alternative and the NEPA 101 criteria for environmentally preferable alternative and designated alternative B as environmentally preferable.
August 2015	Preparation and publication of Final EIS	Service personnel prepared and released the final EIS for RMA NWR. A Record of Decision will be prepared 30 days after release of the Final EIS.

in chapter 5, the Service has contacted and invited Native American tribes and actively involved Federal and State agencies, local governments, organizations, and private citizens throughout the process.

Cooperating Agencies

We sent letters of notification about the planning process, including an invitation to join the planning team, to several Federal and State agencies: Environmental Protection Agency (EPA), Federal Highway Administration (FHA), U.S. Army, Colorado Parks and Wildlife (CPW), Colorado Department of Public Health and Environment, Tri-County Health Department (TCHD), Adams County, City of Commerce City, City and County of Denver, Denver International Airport (DIA), UDFCD, and Denver Water. Many of these agencies have participated as cooperating agencies in the planning process and planning team (see chapter 5).

The planning team prepared and released a draft CCP and EIS to the public. We published a notice of availability of the draft CCP and EIS in the Federal Register on May 6, 2015. During the 60-day public comment period we held four public meetings and collected and analyzed comments. After careful consideration of all comments, we modified the draft CCP and EIS and prepared this final EIS. After the Record of Decision is signed by the Service's Regional Director, we will begin developing the final CCP.

Native American Tribes

We sent letters of notification about the planning process, including an invitation to join the planning team, to the following tribes: Northern Arapaho, Northern Cheyenne, Southern Ute Indian Tribe, and Ute Mountain Ute Tribe. We will reach out to and work with tribes who are interested in the planning process.

1.7 Significant Issues to Address

Habitat and Wildlife Management

We manage a wide variety of habitats on the refuge, including prairie grasslands, wetlands, reser-

voirs and ponds, and riparian corridors. The nearly 26 square miles of open land encompassed by the refuge provide important feeding, nesting, and wintering habitat for many bird species, including burrowing owl and bald eagle. Many species of mammals use the refuge, including American bison, deer, coyote, red fox, and black-tailed prairie dog. In total, more than 350 species of wildlife can be found on the refuge at different times of the year. Because of previous land management practices and Superfund cleanup activities, many acres of the refuge grassland habitats were severely affected, and we are still in the process of restoring these habitats. The grassland reestablishment task becomes especially challenging when the developing vegetation is subjected to strong grazing pressure, such as that from bison and prairie dogs. Accordingly, it is very important to reduce grazing pressure on recently restored grasslands until these habitats attain a degree of stability that can sustain more intense grazing. We try to accomplish this by managing the refuge's bison herd grazing areas and by maintaining a healthy prairie dog population.

Many of our wildlife and habitat management issues have already been addressed in our HMP. Consequently, we have limited our analysis of impacts to new actions, such as increased visitation and reintroduction of native species.

Water Rights

It is our policy to comply with State laws, regulations, and procedures in obtaining and protecting water rights, both for Service facilities and for trust fish and wildlife resources on lands not owned by the United States, except where application of State statutes and regulations does not permit Federal purposes to be achieved. Federal reserved water rights will be quantified and asserted when necessary to accomplish the primary purpose of the reservation. Water rights appurtenant to lands proposed for protection, restoration, enhancement, development, or acquisition will be identified and evaluated early in the planning process, and proposed actions will not proceed until water rights have been acquired. We will cooperate with the State on all matters related to water use and water rights and will seek to resolve conflicts through negotiation, in coordination with the Solicitor's Office, as appropriate. However, if negotiations are unproductive, other courses of action, including litigation, will be pursued (FWS 1993).

Groundwater and water storage rights for the refuge appear to be adequate for current management. Most of our reservoirs have additional storage

available. In the future we may seek a change in location of our senior water rights in Upper Derby Lake, or we may petition for additional water rights to the maximum storage available in our reservoirs.

The refuge's water rights and water management are complex subjects requiring an indepth analysis and their own management plan. Accordingly, we developed a more detailed plan (FWS 2014b) that explains how our water will be managed under a variety of circumstances. In summary, we generally obtain water in the following order: (1) use surface water, (2) purchase recycled water, and (3) pump groundwater. This order of priority is the most cost effective, involves the smallest carbon footprint, and limits the amount of groundwater removed from the aquifer. This water management approach requires

minor infrastructure. However, because there would be no changes to our current management approach, no impact analysis is necessary in the EIS.

We recognize that all natural systems are dynamic. The refuge will experience years with high and low water levels, and both beneficial and adverse effects can result from these fluctuations. In most years, water rights become an issue in the South Platte basin. Accordingly, we will store what we are legally allowed and will divert any additional water directly back to the basin via our wetlands. During dry years, we may be required to purchase and pump more water to meet our needs.

The water rights pertaining to the refuge are summarized in tables 2, 3, and 4.

Table 2. Summary of surface water storage rights, Rocky Mountain Arsenal National Wildlife Refuge, Colorado.

<i>Name</i>	<i>Priority Date</i>	<i>Maximum Storage Right</i>	<i>Case Number</i>
Lake Ladora	March 3, 1919	203 af	No. 54658 (12 November 1924)
Lake Ladora (enlargement)	May 12, 1942	323 af	No. W-9160 (b) -77 (6 August 1996)
Upper Derby Lake	May 12, 1942	460 af	No. W-9160 (b) -77 (6 August 1996)
Lower Derby Lake	October 3, 1893	387 af	No. 807 (9 June 1924)
Lower Derby Lake (enlargement)	May 12, 1942	660 af	No. W-9160 (b) -77 (6 August 1996)
Lake Mary	November 24, 1960	57 af	No. W-9160 (b) -77 (6 August 1996)
Havana Pond	February 28, 1985	79 af	No. W-9160 (b) -77 (6 August 1996)

Table 3. Summary of groundwater rights for Sections 4 and 12 Wells, Rocky Mountain Arsenal National Wildlife Refuge, Colorado.

<i>Name</i>	<i>Priority Date</i>	<i>Maximum Water Right</i>	<i>Case Number</i>
Section 4 Wells (Wells # 385, 386, 387)	August 6, 1956	750 gpm 466 af	No. W-9160(a)-77 (16 December 1994) No. W-9161(a)-77 (16 December 1994) No. W-9162(a)-77 (16 December 1994)
Section 4 Wells (increase)	March 26, 1999	900 gpm 700 af	No. 2002CW238 (16 April 2013)
Section 12 Well	December 20, 2004	900 gpm 700 af	No. 2008CW286 (25 November 2014)

Table 4. Summary of groundwater rights for other wells (<50 gpm), Rocky Mountain Arsenal National Wildlife Refuge, Colorado.

<i>Name</i>	<i>Priority Date</i>	<i>Maximum Water Right</i>	<i>Case Number</i>
Ole Rugger Well (Section 20)	May 1, 1965	25 gpm Stock	No. W-9150-77 (28 March 1989)
Section 8 Well	January 1, 1960	10 gpm 160 af	No. W-9164-77 (9 October 1981)
Section 32 Well	January 1, 1942	40 gpm Stock	No. W-9159-77 (13 March 1992)

af = acre-feet; gpm = gallons per minute

Connecting People with Nature

Many of the comments we received during the scoping meetings and by email reiterated an issue that the Service is trying to help address through expanded public opportunities on the units of the Refuge System—connecting people with nature.

Recent studies in the U.S. suggest that a lack of personal connection with nature and decreased engagement in outdoor recreational activities could have potential adverse effects on children, adults, and the health of society in general. The Service's Connecting People with Nature program seeks to reconnect our Nation's residents with the natural world, especially at the units of the Refuge System.

Our refuge needs to become an example of how our agency and the units of the Refuge System can help address this issue by reconnecting the present and future generations of Americans with the natural world, and instilling in them an appreciation for the conservation of our natural resources.

Setting Clear Expectations About the Refuge

Many individuals and members of our staff commented that it is not uncommon for visitors to the refuge and other units of the Refuge System to be unaware of the difference between our agency and the lands we manage and other agencies and their lands, such as the National Park Service, Bureau of Land Management, USDA Forest Service, and Colorado Parks and Wildlife. Similarly, many visitors are unaware of what activities are allowed in the lands we manage. We realize it is important for us to find better ways to communicate to the public about who the Service is, what our mission and lands are, and how the public can participate in that mission and in the activities offered throughout the lands we manage. To that end, we developed a Communications and Outreach Goal (see "Summary") through which we propose concrete actions to help us communicate more efficiently and clearly with our visitors and stakeholders.

Improving and Expanding Public Use Facilities and Programs

Comments that we received during the scoping period show a desire from the public that we expand

and improve our visitor services programs and facilities to appeal to a wider audience and nontraditional refuge visitors. Since we expect the number of visitors to the refuge to increase steadily over coming decades, it is important to consider, plan, and implement changes and improvements to our refuge's visitor services programs and facilities to accommodate these anticipated increases and diversification of future visitors (see appendix D for projected increases in visitation). Failing to do so could create logistical complications for our staff, diminish the quality of our visitors' experiences, and cause us to miss opportunities to educate refuge visitors about our refuge, the Refuge System, and environmental conservation in general.

We also received many inquiries and comments regarding expanded fishing opportunities and opening hunting opportunities on the refuge. There is both support for and opposition to the use of hunting as a management tool and a wildlife-dependent recreational activity throughout the country, and on the refuge specifically. The alternatives reflect these requests by providing hunts and hunting education at varying levels.

Some groups wish to invest more and partner with the refuge in environmental education and interpretation to educate visitors about the importance of the refuge and the history of the refuge site.

We also received public comments recommending that we open more refuge areas to wildlife observation and photography, and build more blinds and observation facilities throughout the refuge.

There is widespread and increasing interest among the public for the allowance of other outdoor recreational opportunities and facilities to support bicycling, camping, snowshoeing, cross-country skiing, jogging, hiking, and picnicking. Many of our partners would like to think beyond the boundaries of each refuge, craft plans at the landscape scale where possible, and use a variety of mechanisms to accomplish our common goals. This philosophy is reflected in alternative D.

Maintaining a Sense of Retreat

Many comments we received reminded us that the refuge offers a precious sense of retreat in the midst of a highly urbanized area. This characteristic is not only of great value for visitors, but is also essential to the wildlife living in or migrating through the refuge. We have been asked to preserve this refuge attribute—unique in the context of the Denver Metropolitan area.

Interpretation of the Site's History

Many comments stressed the importance of preserving the refuge area's rich pre- and post-European settlement history and requested that we continue protecting and interpreting historical artifacts, structures, and sites within the refuge boundary. In general, there has been outstanding cooperation between Federal agencies, tribes, and the State Historic Preservation Office to preserve and document the refuge site's history.

Museum property representing arsenal activities during World War II and the Cold War are currently stored in one of the refuge's buildings. We have been asked to display and interpret these artifacts or to create a World War II and Cold War era museum on the refuge. Although the proper care of these artifacts is the Service's responsibility, and several are displayed in the Visitor Center as part of the interpretation of those eras, a more extensive display is not within the refuge's primary purposes. Nevertheless, our staff needs to determine the best preservation options and future use of these artifacts.

Improving Access and Transportation

Many comments pointed out the need to provide more and easier access to the refuge now that cleanup activities have concluded. Our alternatives have been developed to address these comments. Refuge neighbors have pointed out that despite their proximity to the refuge boundary, they must travel miles to enter the refuge through the only currently available public access point. Other comments pointed out that adding new refuge access points would offer neighbors and other visitors a more direct connection between refuge trails and other nearby trail systems, such as the Rocky Mountain Greenway Trail Network.

Some commenters asked us to consider allowing the use of bicycles in the refuge to participate in refuge programs and view wildlife and habitats. We have also been asked to consider how our existing and possible future trails may better accommodate pedestrians, bicyclists, and other refuge visitors.

Other comments asked us to study the possibility of expanding the existing auto tour route and opening some of the staff-only roads to visitors to provide access to areas currently closed to the general public. Presently, the 7.8-mile Wildlife Drive in the central portion of the refuge is open only to refuge, U.S. Army, or appropriate contractor's staff, and to visi-

tors while being transported in the refuge bus and guided by refuge staff. Allowing refuge visitors to use this drive would provide them with access to refuge habitats and wildlife in the southern portion of the refuge. Many other roads, remnants of the site's diverse uses, are similarly closed to the general public; these are currently used by the refuge, U.S. Army, and appropriate contractors for maintenance and other necessary activities. We have been asked to determine if some of these roadways may be opened to the general public, thereby extending the existing Wildlife Drive.

A few comments pointed out that because some of the site's remnant roads crisscrossing the refuge may no longer be essential for management, maintenance, or general transportation, such roads should be decommissioned and the roadbeds restored to native habitat to improve habitat connectivity. Other commenters pointed out a need for expanded parking facilities where refuge visitors can safely park their vehicles without affecting refuge habitats and other visitors' mobility.

Finally, some commenters have suggested improvements to the refuge signage to help refuge visitors more easily navigate the refuge sites and facilities.

Alternatives C and D propose increased public access to the Wildlife Drive and other areas of the refuge. Alternatives B, C, and D entail improvements to refuge signs and facilities.

Reintroducing Native Species

In addition to the American bison—successfully reintroduced to the refuge a few years ago—we are considering bringing back other animal species that historically inhabited the Front Range region of Colorado. These species include the federally listed black-footed ferret, pronghorn, greater prairie-chicken, and plains sharp-tailed grouse. We will need to conduct some research and consultation with species experts to determine if the size and current habitat conditions on the refuge are adequate to sustain populations of these species.

As part of the overall recovery strategy for the black-footed ferret, we are considering reintroducing this highly endangered mammal to the refuge's grasslands habitats. This proposal has generated tremendous interest from the public and NGOs throughout the nation, as well as from neighboring communities, State and local governments, and a variety of State and Federal agencies throughout the region.

Improving Outreach to Neighboring Communities

Many people noted that, while visitation to the refuge has increased steadily and dramatically in the past 10 years, many residents in the surrounding communities and the broader Colorado Front Range region are unaware that the refuge exists, is open to the public, and offers programs and outdoor recreational opportunities. They pointed out a need to improve and expand our outreach efforts to these communities.

Ever since the establishment of the refuge, we have endeavored to reach out to partners, stakeholders, and the public using a variety of means and personnel. Based on comments during public scoping, it appears that our efforts have met with mixed results. Many people, especially members of nontraditional and minority groups, are not aware of the refuge or its mission and programs or, perhaps, do not find them appealing.

The Refuge System—the largest system of lands dedicated to wildlife in the world—is tasked with conserving wildlife and the habitats on which they depend for the enjoyment of future generations. Yet many refuge visitors and members of the general public do not know of the Refuge System’s existence or of its important mission. Because it is nestled within the Denver Metropolitan area and adjacent to DIA, the refuge can be a vital ambassador for the Refuge System, accessible¹ to local residents as well as international visitors.

We need to convey to today’s young people the importance of the Refuge System and the Service’s role in the conservation of wildlife and the habitats on which they depend on a local, national, and international scale. To this end, we must increase the scope and effectiveness of our outreach activities if we are to be successful stewards and leave a fitting natural legacy for future generations.

Alternatives C and D would expand and diversify our outreach programs and activities to better communicate the importance of the refuge and the Refuge system.

¹ This plan often refers to making the refuge more “accessible.” In this context, the term refers to access to and from the refuge using various modes of transportation. “Accessibility” refers to the design of services and environments for people with disabilities.

Increasing Partnership Opportunities

Some commenters suggested that we assess strategies for increasing our partnerships with neighbors, stakeholders, and others during the planning process. Refuge management offers many opportunities for partners and volunteers to advance the refuge’s mission and programs. Both former and existing partnerships have helped us maintain and expand programs, as well as carry out restoration and conservation projects on and off refuge lands.

The Service in general and our staff in particular appreciate and value the importance of partnerships in achieving the Service’s and Refuge System’s missions and the refuge’s purposes. Accordingly, our planning team has addressed opportunities for partnerships with our neighbors, stakeholders, and others.

Alternatives B, C, and D, to varying degrees, would maintain or expand existing partnerships and seek out new ones.

Make the Refuge More Welcoming

We received many comments about the refuge boundary fence and vehicular entrance, suggesting that we expand public access to the refuge and create a more welcoming and appropriate look and atmosphere. Currently, an 8-foot chain-link fence—a remnant of the prior cleanup period—surrounds the entire refuge. Although most of the site has become a wildlife refuge, this boundary fence has remained despite the conclusion of Superfund cleanup activities. The existing fence reinforces the messages of closure and exclusion that characterized the site’s previous condition, and that is in direct opposition to the message we wish to convey to neighbors, stakeholders, and visitors.

An effective barrier is necessary to promote public safety. We are attempting to keep large wildlife species (such as bison and deer) from moving out of the refuge and endangering people and themselves, causing disruptions to the vehicular and aircraft traffic patterns around the refuge, and damaging private property. The fence has also helped isolate refuge deer populations from populations outside the refuge that may carry chronic wasting disease. The refuge must find ways to continue managing its habitats and wildlife to ensure public safety, while at the same time creating a more welcoming look and environment for neighbors and visitors.

The Service's Urban Wildlife Refuge Program seeks to engage urban communities as partners in wildlife conservation (see appendix E for information on the Standards of Excellence for Urban National Wildlife Refuges). To accomplish this, units of the Refuge System near or within urban areas must reach out to and engage the residents of these urban areas. We understand that the current infrastructure of our refuge is not ideal to support the goals of the Service's Urban Wildlife Refuge Program; accordingly, we have proposed steps to support this program.

1.8 Issues Not Addressed

We considered several issues that were identified by the public during scoping and alternatives development but were not selected for detailed analysis in the EIS. In accordance with the requirements of NEPA, we have identified and eliminated from detailed analysis the topics or issues that are not significant or are beyond the scope of this planning process. These issues and the rationale for not discussing them further in the EIS are briefly described below.

Development of Mineral Rights

When the refuge was created, the majority of mineral rights were acquired with the land. In addition, the United States and the State of Colorado entered into an agreement stating that all minerals owned by the State within the boundaries of the refuge are subordinated (November 5, 1942). For those remaining outstanding mineral rights, the EIS does not address the rights of private property owners to exercise their rights to extract any locatable minerals or oil and gas within or adjacent to the refuge. Any exploration or other activities supporting the testing, development, or production of gas, oil, and other resources will be analyzed through an additional and separate NEPA process designed to address that issue specifically. While this EIS does not analyze any future mineral development alternative, we are considering how habitat, wildlife, and visitor services should be managed if private mineral development occurs near or adjacent to the refuge.

Decisions Made in Other Planning Documents

During the past several years our staff has been working with other Service employees from the Division of Biological Resources, the Division of Water Resources, and the Division of Fire Management to prepare various plans to assist in refuge management. The plans include an HMP, an Integrated Pest Management Plan (IPMP), a Water Management Plan (WMP), a Fire Management Plan (FMP), a Black-Tailed Prairie Dog Management Plan, and a Station Safety Plan (SSP). Most of these plans were drafted and released for public comment in spring and summer 2013. After analyzing the comments we received during the public comment period, we addressed all significant comments and then finalized the plans. These plans have been under implementation since they were finalized. The EIS does not read-dress the decisions made on the HMP, IPMP, WMP, FMP, Black-Tailed Prairie Dog Management Plan, or SSP as these plans have already undergone their own NEPA analysis and public scrutiny.

We use a variety of plans to assist with refuge management. The plans discussed below have been developed in the last 2 years and are not included in the scope of this planning process.

Habitat Management Plan

The HMP provides additional details regarding specific strategies and implementation schedules for meeting the wildlife and habitat goals for the refuge.

Integrated Pest Management Plan

The IPMP provides a broad strategy for combating invasive plant species and weed control on all three refuges, focusing on early detection and a rapid response program for species with a high potential for spread.

Water Management Plan

The WMP is a synthesis of our water sources and how water is managed on the refuge. The WMP establishes monitoring protocols to ensure compliance with State of Colorado regulations.

Fire Management Plan

The FMP provides policy direction for wildland fire suppression and prescribed fire activities on all three refuges to promote healthy native habitat for wildlife.

Black-Tailed Prairie Dog Management Plan

The Black-Tailed Prairie Dog Management Plan establishes a transparent decision-making process and information on the methods that will be used to control and maintain a healthy and balanced population of prairie dogs on the refuge.

Station Safety Plan

The SSP assesses risks associated with refuge staff and visitors, outlines the procedures for safe operations, and provides information and procedures to be followed in case of an emergency. All of our safety analysis is covered under our SSP.

Superfund Cleanup

Some of the site's historical military and industrial activities resulted in contamination of portions of the lands within and around the refuge boundary. In 1987, the site was studied and declared a Superfund site, initiating a vast and comprehensive cleanup effort. EPA, the U.S. Army, and Shell Oil Company have performed numerous environmental studies and complied with appropriate NEPA regulations, including full disclosure, public outreach, and opportunities for public comment. The lands transferred by the U.S. Army and currently being managed by the Service have been cleaned up sufficiently to guarantee human and wildlife safety. From this process, several encumbrances, or land use restrictions, have been passed along to us (see section 1.2).

Because the site's Superfund designation and subsequent cleanup activities were subjected to their own NEPA analysis and process, this EIS does not further address these issues.

Refuge Revenue Sharing Payments

Since 1935, we have made revenue-sharing payments for refuge lands under our administration to counties under the Refuge Revenue Sharing (RSS) Act of 1935 (16 U.S.C. 715s), which was subsequently amended. These payments are not the same as other Federal revenue-sharing payment measures, such as payments in lieu of taxes, that apply to lands administered by other agencies, including those within DOI. When there is not enough money to cover the payments, Congress is authorized to appropriate money to make up the deficit; however, payments to a

county are reduced when Congress fails to appropriate the money. Understandably, these are issues of concern for many counties in times of declining revenues, but the Service has no control over Congress in making these payments.

In section 4.9 of this document we provide information about the refuge's RSS payments and how they contribute to the local economy. Nevertheless, the issue of Congressional levels of funding for RSS payments is outside the scope of this EIS.

Management of U.S. Army–Retained Sites

The Rocky Mountain Arsenal (Arsenal) was established by the U.S. Army during World War II. With the passage of the Rocky Mountain Arsenal National Wildlife Refuge Act of 1992 (Public Law 102-402), the Secretary of the Army was directed to transfer jurisdiction of the Arsenal to the Secretary of the Interior. This act created the refuge by transferring most of the former Arsenal lands to the Service. However, the U.S. Army retained some lands (approximately 1,000 acres) for the operation and maintenance of landfills and groundwater treatment facilities.

Except for any cumulative effects that result from our proposed actions, the EIS does not address the management of U.S. Army–retained sites on or adjacent to the refuge, as these lands are managed by a different agency and this issue is outside the scope of the analysis.

Power Transmission Lines

We have received many questions about the large overhead power lines at the refuge. In 1947, the U.S. Army granted an easement to the Public Service Company of Colorado, later becoming XCEL Energy Company, to construct and maintain an electric transmission line over and across the refuge. In 1997, the term of this easement was extended by 50 years (ending April 29, 2047). In 2003, a slight adjustment was made to facilitate the widening of 56th Avenue and allow the power lines to go behind the U.S. Army Reserve Center. Power lines constructed by the refuge will typically be below ground, but any changes to power lines owned by Public Service Company of Colorado within existing easements are outside the scope of this document.

Repository Programs

The Service's Office of Law Enforcement manages the National Wildlife Property Repository (Repository) and the National Eagle Repository (Eagle Repository), both of which are within the refuge boundaries.

These facilities support the Service's law enforcement, migratory bird permit, and educational outreach programs nationwide. Both are funded from criminal fine monies deposited in the Lacey Act Reward Account.

The Repository receives, stores, and distributes wildlife property that has been abandoned or forfeited to the government as a result of Service wildlife inspections and wildlife crime investigations. It currently houses approximately 1.5 million individual pieces of wildlife property, including many striking examples of the impact that unlawful wildlife trafficking has on imperiled species such as tigers, rhinoceros, elephants, bears, and too many more to list here. The Repository loans wildlife products to public scientific and educational institutions, State agencies, and Service offices for use in conservation education or law enforcement. In 2013, we played a major role in planning and hosting the U.S. Ivory Crush.

The Eagle Repository supplies whole eagles and eagle feathers and parts to enrolled members of federally recognized Native American tribes for religious use under a Service permit program. In 2012 and 2013 the Eagle Repository conducted formal nationwide government-to-government consultations

with tribes, and started using the information from those consultations to make improvements to the Repository's distribution processes beginning June 1, 2014. Since its transfer to Colorado in 1995, the Eagle Repository has filled more than 42,000 individual orders for Tribal members. Because the Repository is not managed by the refuge, we do not further address it in this EIS.

1.9 Scope of the Document

The scope of our decisions and analysis is broken out into two areas: the decision area and the analysis area.

Decision Area

The decision area is the area within the designated boundary of the Rocky Mountain Arsenal National Wildlife Refuge (figure 6).

Analysis Area

The analysis area (table 5) encompasses the decision area as well as areas outside the decision area where most of the direct, indirect, or cumulative effects could occur as a result of implementing the

Table 5. Rocky Mountain Arsenal National Wildlife Refuge EIS decision and analysis areas.

<i>Environmental Impact Statement Decision Area</i>
For the purposes of the environmental analysis of this EIS, the decision area is that encompassed by the Congressionally designated boundary of the Rocky Mountain Arsenal National Wildlife Refuge, excluding the Army-retained areas.
<i>Environmental Impact Statement Analysis Area</i>
For the purposes of the environmental analysis of this EIS, the analysis area for physical impacts includes all areas surrounding the refuge where the management actions described in this document could result in a direct and quantifiable impact. It is expected that the smoke generated by prescribed burns or wildfires on the refuge would have the most extensive direct and quantifiable impact of all refuge actions. Furthermore, it is estimated that, under normal conditions and following established prescribed burn guidelines, the greatest distance that smoke would travel outside the refuge boundary would be approximately 1 mile. Accordingly, we established the following 1-mile boundary lines for the EIS analysis area.
North: 104th Avenue (Commerce City)
Northwest: Interstate 76 (Commerce City)
West: Holly Street (Commerce City)
South: Green Valley Ranch Boulevard (Denver)
East: Tower Road (Denver)
For the purposes of assessing socioeconomic effects, the analysis area encompasses Adams, Arapahoe, Boulder, Broomfield, Denver, Jefferson, Larimer, and Weld Counties.

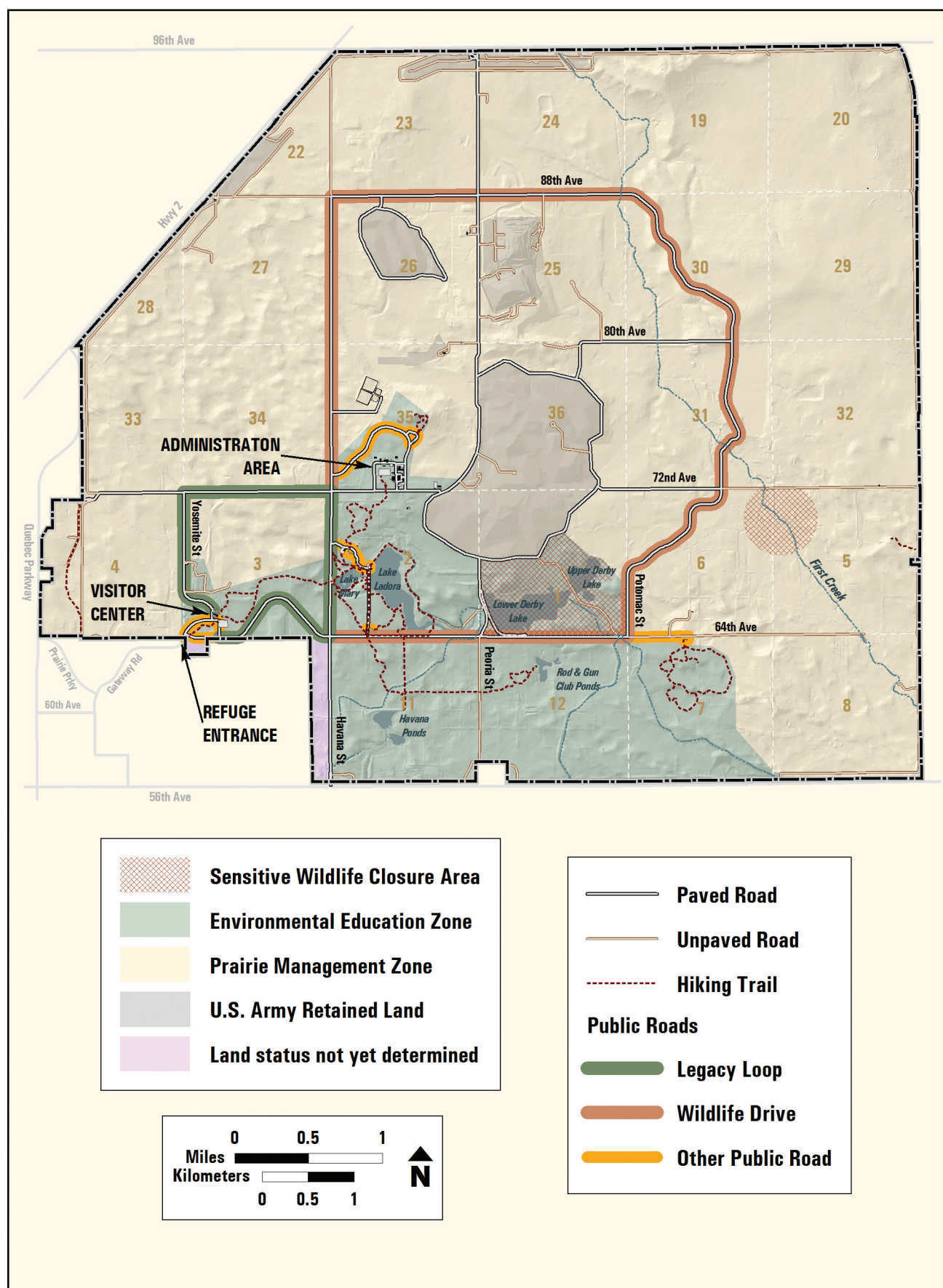


Figure 6. Rocky Mountain Arsenal National Wildlife Refuge, Colorado.

actions described in the alternatives. These effects are described in chapters 3 and 4. The foreseeable activities where our actions in combination with other activities could result in cumulative effects are described in detail in chapters 2 and 4.

1.10 Decisions to Be Made

The Regional Director of the Mountain-Prairie Region will make the final decision on the preferred alternative for the final EIS and for the final CCP. The Regional Director's decision will be based on the analysis of impacts; our legal responsibilities, including the mission of the Service and the Refuge System; other legal and policy mandates; the purposes of the refuge; and the vision and goals identified herein.

Additionally, in accordance with our policy (040 FW 2), the Regional Director will make the decision on whether, for administrative purposes only, to rename the refuge complex.²

Our final decision will be documented in a record of decision that will be published in the Federal Register no sooner than 30 days after filing the final EIS with EPA and distributing it to the public. We will begin to carry out the selected alternative identified in the final EIS immediately following publication of the decision in the Federal Register.

² Due to their close proximity, the Rocky Mountain Arsenal, Rocky Flats, and Two Ponds National Wildlife Refuges are administratively managed as one “complex”—the “Rocky Mountain Arsenal National Wildlife Refuge Complex.” This name is site-specific to the Rocky Mountain Arsenal and does not accurately reflect our management of all three units. The planning team has proposed a new name for the complex—the “Colorado Front Range National Wildlife Refuge Complex”—but this name change has not been finalized.

